

The influence of personality traits on information seeking behaviour of students

Santoshi Halder¹, Anjali Roy² and P.K. Chakraborty²

¹ Department of Education, University of Calcutta,
1, Reformatory Street, Kolkata- 700027, West Bengal, INDIA

² Department of Applied Psychology, University of Calcutta,
92, A.P.C Road, Kolkata - 700 009, West Bengal, INDIA
e-mail: santoshi_halder@yahoo.com

ABSTRACT

The present study was undertaken with the objective to explore the influence of the five personality dimensions on the information seeking behaviour of the students in higher educational institutions. Information seeking behaviour is defined as the sum total of all those activities that are usually undertaken by the students of higher education to collect, utilize and process any kind of information needed for their studies. Data has been collected from 600 university students of the three broad disciplines of studies from the Universities of Eastern part of India (West Bengal). The tools used for the study were General Information schedule (GIS), Information Seeking Behaviour Inventory (ISBI) and NEO-FFI Personality Inventory. Product moment correlation has been worked out between the scores in ISBI and those in NEO-FFI Personality Inventory. The findings indicated that the five personality traits are significantly correlated to all the dimensions of information seeking behaviour of the university students.

Key Words: Information seeking behavior; University students; Five personality dimensions; Product moment correlation

INTRODUCTION

It is a universal phenomenon that human being though born ignorant, constantly search for satisfying its ever increasing quest for resolving problems related to survival (Case 2002). Information seeking is thus a natural and necessary mechanism of human existence (Marchionini 1992). The possible consequence of information revolution has resulted in dynamic change to every sphere of a country today. On the verge of so many changes in an effort to capture the essence of such changes human being is constantly struggling hard to truly apprehend or fully comprehend the dynamic causes, processes and the effects of these changes on humans and society. India being a developing nation is undergoing major shifts from an agricultural society, to an industrial society and now to an information society. During the last decade vast improvements in World Wide Web (WWW) and Information Communication Technologies (ICT), coupled with tremendous population explosion and complexities of organizations have been the prime movers and shakers to make information so paramount. Thus research on the value of information has become the key areas in various fields including education, psychology and information

management (Dervin 1983; Griffiths 1982; Lytle 1986; Repo 1987; Rouse and Rouse 1984 and Taylor 1986).

It has been found by previous investigators that students lack information skills and they need to be taught survival skills in information retrieval and management (Dreifuss 1981). Only then will the education programme become “an instructional force for excellence”. Thus for the educational institutions to be effective information providers, a fuller understanding of the information seeking behaviour, information needs and use of students along with all the factors which directly or indirectly influence the information seeking behaviour becomes a necessity. Considering the relevance and importance of information seeking behaviour for individual and societal development, it has attracted the attention of the library science personnel, researcher, curriculum constructors, and teachers and theorists from various disciplines and fields in many decades for a thorough investigation into the area (Chatman 2000; Cole 2000; Dervin 1992; Ford 2004; Kuhlthau 1993; Nahl 2001; Todd 1999; and Wilson 2000; 1999).

INFORMATION SEEKING BEHAVIOUR

Information seeking is a conscious effort to acquire information in response to a need or gap in one’s knowledge. Information behaviour encompasses information seeking as well as the totality of either unintentional or passive behaviour, as well as purposive behaviours that do not involve seeking such as actively avoiding information (Case 2002). Information seeking behaviour refers to the way people search for and utilize information (Fairer 1990).

Information seeking has been compared as a rational problem solving process and in most cases Information seeking process is dynamic and changeable in terms of individual differences (Allen and Kim 2001; Borgman 1989; Crozier 1997; Humphreys and Revelle 1984; Miculincer 1997; and Solomon 2002). The reasons behind different Information approaches may lie in the context but also may be due to the person’s inner processes, information habits, needs, cognitive abilities, learning outcomes and personality traits (Blickle 1996; Eskola 1998; Heinstrom 2003; and Kernan and Mojena 1973). Researchers highlighted that needs, demands, feeling of stress, uncertainty, frustration, anxiety, insecurity, ability, cognitive style etc are mediating and moderating the nature of Information seeking behaviour of the individuals. (Heinstrom 2003; Kuhlthau 1993; Nahl 2001; and Venkula 1988)

Information Seeking in Student Community

Most of the time student’s information seeking behaviour involves active or purposeful information seeking as a result of the need to complete course assignments prepare for class discussions, seminars, workshops, conferences or write final year research papers (Fister 1992). In this competitive information explosion era it has become the teachers prime task to know the student inherently before delivering or imparting teaching or instruction so that the students can extract the maximum. The focus today is to know the students more so that the teacher can adopt and modify their teaching - learning according to the needs and demands of the students.

Researchers in the field of psychology have long been attempting to derive criteria for predicting human behaviour in relation to information seeking and the learning process. Such criteria can be of enormous help in gaining an insight into individual difference and in predicting behavioral patterns in specific situations and conditions in order to help the

information providers. Previous research has shown that students vary widely in their ability to find and retrieve information (Taylor 1991) in loosely structured information environments. Thus recognition of individual differences is increasingly becoming an important consideration in information seeking studies to arrive at some generalization regarding the nature of the seekers and to locate the possible variables which cause such individual differences in search behaviour.

Information Seeking Behaviour and Personality Traits

Information seeking is a dynamic and changeable process depending on the situation, but also to a large extent on the individual performing it. One important psychological mechanism which guides behaviour is personality. As personality forms an inclination towards certain characteristic reactions in any given situation, personality traits are likely to influence attitudes and behaviour in an information-seeking context. After years of research in the field now researchers have recognized the potential predictive power of personality and derived the reasons for individual differences (Miller and Jablin 1991; Wanberg and Kammeyer-Mueller 2000). These insights are valuable for researchers interested in user behaviour as well as for practitioners like teachers and information professionals. Personality as an influential variable on information behaviour have received little attention from the researchers (Borgman 1989; Heinström 2003; Kernan and Mojena 1973; Palmer 1991b; Teitelbaum-Kronish 1985; and Webreck et al. 1985;). Personality construct can be measured on the basis of some entities which can be perceived. Similarly the dimensions of personality like five factors namely Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness are also the constructs which are being measured by means of some visible entities in the form of behaviours. Information-seeking behaviour has not previously been studied much in relation to personality traits and not with the five-factor model, which is regarded as the most modern personality theory to date. Thus it become clear that in order to analyze a persons personality we need to study his/her behaviour or rather in other words the behavioural responses of an individual are the perfect indicators to know a persons personality. Following a general social psychological approach, personality a sum of biologically based and learnt behaviour is viewed as a complex of biological, mental and social factors that forms the person's unique responses to environmental stimuli and which persists over time and situation (Nakonecny 1998; Phares 1991; Ryckman 1982), which can influence human information behaviour. Information seeking being behaviour thus have sound theoretical assumption to be related with personality. Shannon and Weaver communication model and Maletzke suggests that the receiver's (user's) self- image and 'the receiver as a member of the audience' that is his personality structure are important aspects to be considered in information seeking research (Cacioppo, Petty and Kao 1984; Verplanken et al. 1992; Willoughby and Gardner 1990).

The Five Dimensions of Personality of Information Seekers

The inner traits and personality dimensions of the information seekers interacts with the contextual factors to formulate the impact in the form of motivation for information, information habits, patterns of information seeking and the nature of cognitive, affective and social utilization of information. This gives the possible explanation of the strong relationship between personality and information seeking behaviour and previous researchers have also established the fact (Heinström 2003; Tidwell and Sias 2005).

There is so much of curiosity among the researchers to arrive at a general platform in terms of five personality dimensions that whether we can predict a person's variability (Stankov 1995) towards information seeking behaviour. The researchers understood the

need for predictors in information seeking areas to help the students in their approach to serve for information. In this study only the life long stable five personality dimensions known as NEO-five personality factors namely Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness (Costae and McCrae 1992) were considered as personality dimensions for studying the facilitating and inhibitating effects of personality traits on information seeking behaviour of the university students (Hienstrom 2003; Kassebaum and Szenas 1993; Kernan and Mojena 1973; Kirton 1989; Palmer 1991).

“Neuroticism” being the most pervasive domain of personality scales which contrasts adjustment or emotional stability with maladjustment or neuroticism and measures a dimension of normal personality (Costa and McCrae 1992). The extraversion-introversion dimension contrasts an outgoing character with an isolated nature. “Extraverts” are adventurous, assertive, active, sociable and talkative. Introverts may be described as less talkative, reserved, less curious, shy and unsociable (Costa and McCrae 1992). As a major dimension of personality “openness” is a measure of depth, breadth and variability in a person's imagination and urge for experiences. People with a high openness to experience have broad interests, divergent thinking, are liberal, have intellectual curiosity and like novelty (Costa and McCrae 1992; Howard and Howard 1995). The “agreeableness” scale is associated to altruism, nurturance, caring and emotional support versus competitiveness, hostility, indifference, self-centeredness, spitefulness and jealousy (Howard and Howard 1995). It is primarily a dimension of interpersonal tendencies. Agreeable people can be described as altruistic, gentle, kind, sympathetic and warm (Costa and McCrae 1992). A “conscientious” individual is purposeful, strong willed, determined and goal directed. The more conscientious a person is the more competent, dutiful, orderly and responsible (Costa and McCrae 1992) they become.

Realizing the implication of healthy Information seeking behaviour of the university students for their future progress, achievement, classroom environment, interpersonal relationship and learning behaviour (Day and Silverman 1989; Eysenck, 1967; Hogan and Hogan 1989; and Kline 1977), the researchers have undertaken the research on Information seeking behaviour of the university students with the objectives stated below.

OBJECTIVES AND METHOD

The overall objective of the study was to ascertain if the information seeking behaviour (dependent variable) of the university students is significantly correlated with respect to the five personality traits (independent variable) NEOAC (Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness).

The following hypotheses were framed for the study:

- a) There is significant relationship between ‘Information seeking behaviour’ of the university students and Five Personality Traits (Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness).
- b) There is significant relationship between ‘Information need’ of the university students and the Five Personality Traits.
- c) There is significant relationship between ‘Mode of Information use’ of the university students and the Five Personality Traits.
- d) There is significant relationship between ‘Diversity in search’ of the university students and the Five Personality Traits.

- e) There is significant relationship between 'Cognitive nature of search' of the university students and the Five Personality Traits.
- f) There is significant relationship between 'Resource utilized' of the university students and the Five Personality Traits.
- g) There is significant relationship between 'Level of Satisfaction' of the university students and the Five Personality Traits.
- h) There is significant relationship between 'Level of Perceived Obstacle' of the university students and the Five Personality Traits.

It is a common experience that the university students tend to seek information to the maximum extent, therefore the sample has been drawn from the 600 male and female university students and from the three broad disciplines, namely Science and Technology (N = 200), Humanities and Social Sciences (N = 200) and Commerce (N = 200) from the selected State aided Universities (Calcutta University, Kalyani University, Rabindra Bharati University) of the Eastern part of India (West Bengal). The participants were all in the final year of their post graduate degree with a mean age of 23 years.

The following instruments were used in the study:

- (a) General Information schedule (GIS): This was a set of questions on their demographic characteristics and academic background.
- (b) Information seeking behaviour inventory (ISBI) for university students (developed by the researchers): This is a specially developed inventory covering 77 items on 10 selected domains of information seeking Behaviour. The validity of items of the scale ranged between 0.86 and 0.89 and the reliability coefficient of the inventory ranged from 0.87 and 0.94.
- (c) NEO five factor Inventory (NEO FFI): This inventory is a short revised version (60 items) of the NEO personality Inventory (NEO PI-R) by McCrae and Costa (1992). The reliabilities of the scale ranged from 0.86 to 0.90 and domain wise validity of the component items ranged from 0.51 to 0.88.

The data are treated statistically using product moment correlation analysis, and the results are supported with qualitative analysis.

Conceptual Definition of the Dimensions of Information Seeking Behaviour

In the present study the operational definition of "Information seeking behaviour" is conceptualized generally as those active or purposeful activities, of the students which they encounter during their studies in response to their needs in direct relation to their academic pursuit in the process of learning in order to complete course assignment or examinations, prepare class discussion, seminars, workshops, conferences and as well as career or vocation etc.

"Information need" may be characterized as those arising out of an intense feeling to acquire knowledge and problem solving activities to reduce their gap of knowledge and enrich cognitive activities in relation to academics and curriculum programme, career and other developmental programmes. The gratification theory (Rubin, 1986) also suggested that people are active seekers of information to gratify their needs.

"Drive for search" is an inner state that energizes activities or moves and that directs and channels behaviour of student towards acquisition of information seeking goals. "Information use" is defined as the physical and mental acts which students may employ to

incorporate their knowledge base or knowledge structure in the form of activities for idea generation, idea promotion and idea realization. Debates had pointed out extrinsic motivators (e.g. rewards/punishment) against intrinsic motivator in attempting to determine what best motivates individuals (Dervin 1983). Knaus et al. (2000) found that individual motivation was positively related to the level of information-seeking behaviour.

“Mode of information use” is defined as the physical and mental acts which students may employ to incorporate their knowledge base or knowledge structure in the form of activities for idea generation, idea promotion and idea realization. In this context Wilson (2002) in his study found the level of information searching is dependent on the level of expected utilization with respect to the demands of information searching. Researchers asserted that information quality and sources had a direct effect on the individual behaviour of the searchers.

“Diversity in search” may be considered as the range of variability about content and context in the student’s information search. Iselin (1989) studied the effects of information diversity to the unstructured decision-making tasks and found significant relationship between diversity in information search and the nature of information seeking behaviour (Turoff and Hiltz 2008).

“Level of cognitive nature of search” is referred to as the nature of knowledge base and problem solving attributes as understanding, comprehension, analysis, synthesis and evaluation of the student while searching for a particular topic or subject. In addition to the information need cognitive component in the form to know and to satisfy curiosity, the desire to be informed (Cacioppo et al. 1984; Verplanken et al. 1992) is facilitating the information searching behaviour of the individuals. Understanding of why different persons search information in different ways is vital before designing information retrieval systems and offering appropriate user support (Ford et al. 2002).

“Nature of accessibility of resource” may be considered as those characteristics of the academic resource which may or may make the information within the mental or physical reach of the students. Studies indicated that if information is to be effective, it has to have some qualities like accessibility, precision, timeliness, flexibility, unbiasedness, comprehensiveness, compatibility, clarity, verifiability and quantifiability (Childers 1975; Simon 1955,). According to Harris and Dewdney (1994), information should be physically, psychologically and intellectually accessible, which is intertwined with the issues of control of the user specifically autonomy and heteronomy.

“Involvement in resource utilization” is considered as the degree of proneness as well as their engagement for acquiring information from various sources (formal and informal system) in the form of print materials, journals, internet facilities, books, conferences, teachers and peers. In most fields people prefer informal information sources and channels over formal searches (Johnson and Meischke 1991b; Pennanen and Vakkari 2002; Whit et al. 1993), as the use of informal sources saves time and energy had identified important implication for information behaviour research.

“Level of perceived obstacle” can be considered as the perceived hazards and barriers students generally face during their phases of searching for information or knowledge acquisition. Researchers observed that students experience problems and dissatisfaction in locating information for their academic purposes (Kamanda 1999; Raw 1987).

“Level of satisfaction” entails how much the students feel fulfilled mentally and emotionally after and while searching for a particular topic or piece of information. Griffiths and Brophy (2002) found that efficiency in information searching was correlated most strongly with general satisfaction.

FINDINGS

As this paper focuses on the relation of personality traits on the Information Seeking Behaviour of the students the specific relation between these two variables and their sub facets is the focal point. Each respondent was asked to complete the questionnaires on personality, Information Seeking Behaviour Inventory (ISBI) and General Information Schedule (GIS). The analysis is presented in Table 1. The correlation analysis revealed that there is significant relationship between information seeking behaviour and the five personality traits as detailed in the following:

- a) Information seeking behaviour as a whole was positively correlated with extraversion ($r = 0.244$), openness ($r = 0.141$) and conscientiousness ($r = 0.319$) and negatively correlated with neuroticism ($r = -0.119$).
- b) Information need of the university student was positively related with extraversion ($r = 0.156$) and conscientiousness ($r = 0.208$) personality traits.
- c) Drive for search of the university student was negatively related with neuroticism ($r = -0.140$) and positively related with extraversion ($r = 0.130$), openness ($r = 0.094$), agreeableness ($r = 0.099$) and conscientiousness ($r = 0.216$) personality traits.
- d) Mode of Information use of the university student was negatively correlated with neuroticism ($r = -0.139$), and positively correlated with extraversion ($r = 0.123$), agreeableness ($r = 0.097$) and conscientiousness ($r = 0.273$).
- e) Diversity in search was positively correlated with extraversion ($r = 0.215$), openness ($r = 0.157$) and conscientiousness ($r = 0.199$).
- f) Cognitive nature of search was positively correlated with conscientiousness ($r = 0.099$) and negatively correlated with neuroticism ($r = -0.082$) of the personality traits.
- g) Nature of accessibility of resource was negatively correlated with neuroticism ($r = -0.102$) and positively correlated with conscientiousness ($r = 0.171$).
- h) Resources utilized used by the student was positively correlated with extraversion ($r = 0.160$), openness ($r = 0.130$) and conscientiousness ($r = 0.253$).
- i) Library as an academic resource used by the university student was positively related with extraversion ($r = 0.093$) and conscientiousness ($r = 0.139$) and negatively correlated with neuroticism ($r = -0.105$).
- j) Level of satisfaction of the university student with regard to their overall information seeking was positively correlated with extraversion ($r = 0.203$), openness ($r = 0.101$), and conscientiousness ($r = 0.246$) and negatively correlated with neuroticism ($r = -0.116$).
- k) Level of perceived obstacles faced by the student was positively correlated with neuroticism ($r = 0.303$), and negatively correlated with extraversion ($r = -0.093$), openness ($r = -0.082$), agreeableness ($r = -0.122$), and conscientiousness ($r = -0.150$).

Table 1: Product Moment Correlation Analysis of Information Seeking Behaviour with the Five Personality Traits (N=600)

Selected Components of Information Seeking Behaviour	Neuroticism (N)	Extraversion (E)	Openness (O)	Agreeableness (A)	Conscientiousness (C)
Information seeking behaviour	-0.119*	0.244**	0.141**	-	0.319**
Information need	-	0.156**	-	-	0.208**
Drive for search	-0.140**	0.130**	0.094*	0.099*	0.216**
Mode of information use	-0.139**	0.123**	0.072	0.097*	0.273**
Diversity in search	-	0.215**	0.157**	-	0.199**
Level of Cognitive nature of search	-0.082*	-	-	-	0.099*
Nature of accessibility of resource	-0.102*	-	-	-	0.171**
Involvement in Resources utilization	-0.104*	0.160**	0.130**	-	0.253**
Library as academic resource	-0.105**	0.093*	-	-	0.139**
Level of satisfaction	-0.116**	0.203**	0.101*	-	0.246**
Level of perceived obstacle	0.303**	-0.093*	-0.082*	-0.122**	-0.150**

** Significant at .01 level; *Significant at .05 level

DISCUSSION

The result showed that personality traits indeed significantly influence information seeking behaviour to a great extent. Now each personality traits in general will be discussed with respect to information seeking domains:

“Neuroticism trait” of personality was found to be negatively correlated with all the dimensions of information seeking behaviour (Heinstrom 2003) excluding the domain ‘level of perceived obstacles’. The general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt, and disgust is the core of the neuroticism domain. People high on neuroticism tend to be anxious, anger hostility, depressed, self conscious, impulse and vulnerable (Costa and McRae 1990). Neuroticism the vulnerability to negative emotions was negatively related with drive for search, information use, and nature of accessibility of resource, resources utilized and information seeking behaviour as a whole and positively related with obstacles perceived. These connections suggest that negative emotions or neurotic tendencies of an individual may act as an obstacle to successful information seeking. The more a person is in control of his emotional stability, is calm, relaxed and easy or less neurotic, the more the person will be able to satisfy his information retrieval urges and will resolve most of the obstacles coming in his information searching process. People who were found to be highly neurotic did not felt much motivation for information searching may be because of their vulnerability to negative emotions which block their way to search, a tendency which has been located by earlier researchers as well (Ford et al. 2001; Heinstrom 2003). Due to their insecurities, doubt about their own abilities, anxiety, anger hostility, depressed, self conscious, impulse they tend to keep aloof from sharing or transferring the information they have acquired (Heinstrom 2003; Miculincer 1997; Nahl 2001). These people have a tendency to access only few familiar sources for searching information because of their insecurity with new sources and information (Kuhlthau 1993; Heinstrom 2003). Previous research has shown that the more secure people are the more active in information seeking and the more able to accept new information (Crozier 1997; Heinstrom 2003; Miculincer 1997) though a little anxiety and excitation may enhance performance. Thus quite obvious that these people

will face more obstacles due to mainly two reasons as they already feel negatively driven emotionally because of their inner trait and also because as a consequence of these negative emotions they are not able to act on for successful information retrieval and thus may face more failure.

“Extraversion traits” of personality was positively correlated with all the variable excluding the dimension cognitive nature of search and nature of accessibility of resource which was not found to be significantly correlated with the trait and obstacle dimension was found to be negatively correlated. Extraverts (or extroverts) are sociable, assertive, active, and talkative, upbeat, energetic, optimistic, shy, like excitement and stimulation and tend to be cheerful in disposition are upbeat, energetic and optimistic (Costa and McCrae 1980). Extravert people were found to be more purposeful in information need and their searching zeal was found to be high. They were found to be actively using, sharing and exchanging information to the maximum, a characteristic of high information seekers (Heinstrom 2003). They were found to be diverse and wider in their information search and used most of the resources (formal and informal) available for seeking information a fact indicated by previous researchers as well (Heinstrom, 2003; Onwuegbuzie and Jiao 1998). Extraverted students have an enthusiastic, active and confident character, were characterized by quick solutions and use of social abilities which was reflected in their information seeking (Heinstrom 2003), thus they encountered fewer obstacles in their search process.

“Openness trait” was found to be positively correlated with drive for search, diversity in search, resources utilized, level of satisfaction and also information seeking as a whole and negatively correlated with obstacle. People high on openness are active, imaginative, aesthetically sensitive, attentive to inner feeling, have preference for variety, intellectual curiosity and independent in their judgment. They are curious about inner and outer worlds and their lives are experimentally richer, are willing to entertain novel ideas and unconventional values and they do experience both positive and negative emotions more keenly than the closed individuals. Openness to experience was related to broad information seeking incidental information acquisition, critical information judgment, preference of thought-provoking documents instead of previous documents or ideas and use of effort in information seeking (Heinstrom 2003). The result of the present study showed that people who had an active motivation for search, one with diversity in their approach while seeking information, and used the maximum range of sources were found to fall under openness trait of personality. While extraverted students often obtained low grades, students with high openness to experience were successful in their studies (De Raad and Schouwenburg 1996). Thus as the open students are energetic in character and are intellectually curious (Costae and McCrae 1992; Heinstrom 2003) they were found to be very satisfied with their information seeking and resolved most of the obstacles coming their way

“Agreeableness trait” was found to be positively correlated with motivation for search, mode of use and negatively correlated with level of perceived obstacle. Agreeable people are found to be fundamentally altruistic, sympathetic and helpful to others, straightforward, compliant, modest, and tender minded (Costae and McCrae 1992). People who have acceptance and agreeable qualities and less ego centric were found to be high on their zeal for information search. Due to their motivation they were found to be much diverse in their search patterns and were more frequent users of information acquired. They were found to use maximum of the information sources. Due to their positive

accepting nature they felt less obstacles in their way and thus were found to be very satisfied with their information seeking patterns.

“Conscientiousness trait” of personality was found to be positively correlated with all the dimensions of information seeking behaviour (Heinstrom 2003; Kernan and Mojena 1973) excluding obstacle which was negatively correlated. Conscientiousness individual are competent, orderly, disciplined and dutiful, achievement striking, deliberate purposeful, strong - willed, determined scrupulous , punctual and reliable (Costae and McCrae 1992). Conscientious students are strong willed, determined to achieve, have self-control, persistence and willing to put hard work (Costae and McCrae 1992; De Raad and Schouwenburg 1996; Heinstrom 2003). Therefore conscientious trait highly facilitates positive information seeking in an individual. Highly conscientious people were found to be high information seekers. In the present study all the domains of information seeking were positively correlated with conscientiousness trait. Thus due to their dutifulness, orderly and disciplined nature (high conscientious) they felt less obstacles in their information search.

SIGNIFICANCE OF THE STUDY

The findings have numerous implications for research and practice in personnel psychology, especially in the subfields of educational institutes, library science, cognitive development, training, organizations and performance appraisal. The present study is expected to develop data base information about the personal variables for facilitating information seeking climates in the university system, documentation centres as well as library and information services. The results are expected to help prevent wastage of time and resources at the institutional level as well as the student level, and just in time intervention by the counselor and teachers for streaming the motivation for Information seeking behaviour among the students. If we can arrive at some basic generalisation, the findings will have numerous implications for research and practice in teaching and learning, personnel psychology, cognitive psychology, curriculum construction and library science.

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